Duffield 2003-0207

IN THE CLAIMS:

1. (Currently Amended) A method for assigning packets belonging to traffic of a network to different quality of service (QoS) treatments, comprising the steps of

receiving a packet that may be characterized by a plurality of attributes, and

assigning the packet to preselected QoS treatment relative to flow inside said network from a set of QoS treatments, based on a preselected set of said attributes of the packet, in accordance with a set of rules that was created pursuant to a statistical analysis of traffic in the network.

2 – 18. (Canceled).

19. (Previously Presented) The method of claim **1** wherein:

said set of rules is created to map each class of traffic from a preselected set of traffic classes to specified QoS treatment;

said traffic classes are characterized by value ranges of one or more of said attributes; and

said characterization of said classes by said value ranges of one or more of said attributes is established through statistical analysis of a corpus of training traffic.

20. (Previously Presented) The method of claim **19** wherein the statistical analysis that establishes said characterization identifies said value ranges that create groupings of said one or more of said attributes.

21. (Previously Presented) The method of claim **19** wherein each class of traffic from said set of traffic classes comprises one or more applications taken from a set that includes interactive applications, bulk data transfer applications, transactional applications, and streaming applications.

22. (Previously Presented) The method of claim **19** wherein said network is a target network that is part of a larger network, and said set of rules that map each class of

traffic to specified QoS treatment is under control of an administrator of said target network.

23. (Currently Amended) The method of claim **22** where said corpus of training traffic includes traffic ~~from~~ of more than said target network.

24. (Previously Presented) The method of claim **1** wherein said attributes are reflected in one or more fields in a header of said packet.

25. (Previously Presented) The method of claim **1** wherein said corpus of training traffic contains traffic of with a known set of applications.

26. (Previously Presented) A method for developing a corpus of data for creating set of rules for assigning packets for different QoS treatments, comprising the steps of:

selecting a set of classes;

selecting a set of applications, where each of said applications unambiguously belongs to only one of said classes, and where said set is such that every one of said classes is covered by at least one of the application in the set;

selecting a set of traffic features, each definable from computable analysis of a packet or a flow of packets;

capturing traffic in a training network, which traffic belongs to applications that are included in said set; and

performing statistical analysis of the captured traffic.

27. (Previously Presented) A method according to claim **26** wherein said step of performing statistical analysis comprises the steps of:

selecting one or more packet attributes;

analyzing said captured traffic to create statistical information for each value of said one or more packet attributes, which statistical information pertains to the selected set of features; and

classifying each of said values of said one or more packet attributes into one of the classes based on a selected algorithm that investigates said statistical information for each of said values of said one or more packet attributes.

28. (Previously Presented) The method of claim **27** further comprising a step of mapping said classes to QoS treatments.

29. (Previously Presented) The method of claim **27** where said step of analyzing to create statistical information creates said statistical information recursively.

30. (Previously Presented) The method of claim **27** where said step of analyzing analyzes traffic of a predetermined time interval of data.

31. (New) The method of claim **22** where said different quality of service treatments are pre-established QoS classes of service, and said set of rules is derived in an analysis session relative to traffic of said network for later application to map packet flows to said classes of service.